PROGRESS

OF

MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

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EXCRETION OF MORPHINE IN THE MILK.

Numerous cases of poisoning are on record in which the administration of opium or morphine to a nursing mother has produced toxic symptoms in the infant. DR. PINZANNI (*Journal de Médecine de Paris,* March 9, 1890) has found that when morphine is given in therapeutic doses it is not eliminated by the mammary gland as morphine, but it is in the body changed to apomorphine, and in this form is eliminated in the milk.

Dr. Pinzanni made twelve experiments on nursing women, giving to each of them either thirty drops of laudanum or four grains of morphine, distributed in divided doses through several consecutive days, one-half a grain being given during the first day, and the dose being slightly increased after each succeeding day until the total amount was given. The milk was then collected morning and evening and analyzed, the albuminoids being precipitated by the method of Ritthausen.

It was found that the entire amount of morphine was not so eliminated, either as morphine or as apomorphine, and that in certain instances it apparently was not eliminated in any marked degree. It should be noted, however, that this latter conclusion has been contested by Fehling, Tarnier, and Chantreuil, who especially lay stress upon the danger of believing that any preparation of opium can ever be given to a nursing woman without seriously endangering the life or health of the infant; and Fehling regards a case of poisoning occurring in an infant in which laudanum had been given to the nurse as illustrating the truth of his belief. Of course, this fact does not prove that in certain instances morphine may not be eliminated by the mammary gland, but that does not relieve one of the responsibility and recognition of the necessity for caution in giving opiates to nursing women.

A Case of Poisoning by Antifebrin.

Professor Brieger, of Berlin, reports a case of poisoning by antifebrin. A dose of only seven and one-half grains had been taken for headache three times in one hour. The condition of the patient was very alarming, and ether, coffee, and friction had to be used. The symptoms were cyanosis, palpitation, diplopia, and alarm. The headache which had passed off for the nonce, soon returned.—*Lancet*, March 8, 1890.

Santal Oil.

A paper in the *Wiener medicinische Blätter* of February 13, 1890, calls attention to the fact that the efficacy of specimens of santal oil is largely dependent upon the origin of the oil—whether obtained from the sandal wood of Zanzibar, Java, or Australia. The Chinese appear to have been the first to recognize the properties of santal oil in arresting gonorrhœa, and for a long time they have refused to make use of any specimens except those derived from Mysore; the Hindus, likewise, use the oil of the wood obtained from this locality, and a number of papers have recently been published which seem to indicate that the antiblenorrhœic properties of the oil from this source are especially marked. Dr. Handerson has used the oil from this source and has obtained success where copaiba balsam and cubebs were perfectly inefficacious. Other observers have found oil of santal an active remedy in acute inflammation of the bladder and in chronic urethritis.

In all instances the results obtained were in proportion to the purity of the preparation. It may be given in doses of about three drops, in capsules, in acute gonorrhœa, eight to twelve capsules being given daily; in other affections three to six capsules would be sufficient. The treatment should, of course, be continued for some time after the cessation of the discharge.

Use of Borax in Epilepsy.

Dr. Stewart, assistant medical officer at the Glamorgan County Asylum, has reported seven cases illustrating the value of borax in epilepsy. Case 1, admitted at the age of thirteen, had had epileptic seizures dating from birth, occurring in numbers varying from two to twelve per day, and chiefly at night. She had been under treatment repeatedly, but had derived no benefit. Without treatment the fits during the first week were twenty-six in number, under borax they were reduced to twenty-four in the second and five in the third week. After an interval, free from fits, of sixteen days, four occurred on two successive nights; then, after another interval of nine days, a single fit took place, and since that there had been no recurrence of fits—*i. e.*, a clear interval of over a month.

Case 2 began to suffer from nocturnal epilepsy at eighteen, and came under treatment five years afterward. This case was complicated by serious cardiac disease, stenosis of the mitral orifice. Without treatment, the average monthly number of fits was one hundred and one, and under borax this was reduced to twenty in the first month, seven in the second, one in the third, five in the fourth, none in the fifth, and one in the sixth.

In three others of the seven cases in which the fits occurred, both by day and by night, bromide was shown to exercise a decided influence upon the diurnal seizures, leaving the nocturnal practically unaltered, and in these benefit was experienced from the combined use of bromide and borax, three doses of the former during the day and one single dose of the latter at bedtime.

Dr. Stewart concluded that borax exercises a peculiar influence over nocturnal seizures, and that it is in cases where fits are entirely of that kind that the greatest good may be expected; that bromide, on the other hand, exerts a more powerful influence over diurnal seizures, and that in cases characterized both by day and night fits, a combination of these two remedies will be productive of most benefit.—*Lancet*, April 26, 1890.

A NEW REMEDY FOR SEA-SICKNESS.

In the few cases of sea-sickness which Surgeon **CHARLES W. HAMILTON**, R. N., has had to deal with of late, he has found the internal administration of the seed of the kola (sterculia acuminata) a most successful remedy. Half to one drachm of the seed chewed slowly was followed, in about forty minutes, by complete cessation of the various symptoms of *mal de mer*, the depression, vomiting, and giddiness disappeared; the heart's action was regulated and strengthened, and a confidence during heavy weather was obtained that his cases had never before experienced in the many years they had served in the royal navy, and had tried the usual remedies prescribed by their advisers. This remedy seems to be reliable only when freshly procured.—*British Medical Journal*, May 10, 1890.

OUABAÏN IN WHOOPING-COUGH.

This alkaloid is obtained from the roots of Ouabaïo, a plant nearly related to the Carissa schimperi. It is a crystalline substance, soluble with difficulty in cold, more soluble in hot water. It is best dissolved in strong alcohol.

This substance has been used since October last by **DR. WILLIAM GEMMELL**, who has treated forty-nine cases of whooping-cough with it. Of these, twenty-five recovered, four died, and the others are still under observation. Of the four fatal cases, one died from diphtheria, one from tubercular meningitis, one from acute capillary bronchitis, and the fourth from gradual and progressive emaciation. None of the fatal cases were under treatment with ouabaïn for a longer period than ten days, one of them only for four, and in all of them ouabaïn had been stopped at least a week before death took place. In none of the fatal cases were there any symptoms which might have been interpreted as indicative of ouabaïn-poisoning.

A careful record was kept of the temperature, pulse, respiration, urine, skin, etc., and the effect of the drug on the number and character of the coughs and whoops of each patient in twenty-four hours was closely watched. Except in one remarkably severe case, treatment was not begun until the patient had been eight days in the hospital; this was to enable comparison to be made of the periods before, during, and after treatment. No patient was dismissed until at least a fortnight after the last cough. The following is a summary of the results of the investigation: Ouabaïn is of marked benefit during all stages of whooping-cough, and, if carefully used, produces gratifying results. In the first stage it cuts short the attack; in the second it reduces the violence and frequency of the cough, and diminishes the number of whoops, and, in the third, it hastens convalescence in a remarkable manner.

Ouabaïn is a drug which does not appear to be cumulative: its administration can be stopped suddenly without any ill effect beyond an exacerbation of the whooping-cough; it can be as suddenly resumed. It should be given, at first at any rate, in doses not larger than one-thousandth of a grain every three hours, $\frac{1}{125}$ of a grain daily. For children under one year of age, the dose should not exceed one two-thousandth of a grain every three hours. In children of from six to twelve years of age, if the cough be very violent, and the whoops are numerous, one five-hundreth of a grain may be given at a dose, but the action of the drug must be carefully watched.

The simplest way in which to administer it is to dissolve one grain of ouabaïn in distilled water so that each minim of the solution shall be equal to one-thousandth of a grain.

℞.—Solution ouabaïn	♏xlviij.
Syrupi aurantii	ʒiv.
Aquæ, *ad*	℥vj.—M.

Sig.—A teaspoonful every three hours.

Under the administration of ouabaïn it is found that the temperature, pulse, and respiration are, in uncomplicated cases, slightly below normal. When the drug is pushed the respiration becomes very slow indeed. In a patient four years old it was often as slow as sixteen per minute. It is from its effect upon the respiration that danger is to be expected. An occasional irregularity of the pulse has been noted, and this always occurred in the evening.

Within a few days, always less than seven, and usually three, of beginning treatment, patients are noticed to be perspiring freely, and this is observed to continue so long as the drug is being given. The patient ceases to perspire so freely shortly after the drug is stopped.

The movement of the bowels is regular, the average number of motions daily was one and a third. In no instance was there any of the diarrhœa which is usually so troublesome a feature in whooping-cough. The appetite improves, as also the general condition of the patient.—*British Medical Journal,* April 26, 1890.

THE ADMINISTRATION OF NITROUS OXIDE GAS.

DR. SILK has reported to the Odontological Society notes on a series of 1000 cases in which nitrous oxide was administered, and which had been systematically recorded by the author.

In twelve per cent. there was more or less itching, in two per cent. asphyxial symptoms necessitating pulling forward the tongue; a good many became hysterical, and several suffered after-effects; but seventy per cent., as far as was known, had no trouble. The average quantity of gas used was between four and five gallons, and the average time during which the face-piece was in position was sixty-seven and a half seconds. The duration of the anæsthesia was very variable, as it was exceedingly difficult to know when sensibility was recovered; the absence of the conjunctival reflex, or the presence of jactitations, was no guide. In 467 cases pure gas was employed, either from the bottle of compressed gas or through a gasometer, and in 502 a supplemental bag, where the same gas was inhaled over and over again. The record showed that unpleasant effects had immediately followed more often with pure gas than with the use of the supplemental bag, whereas the remoter symptoms occurred in greater number after the use of the supplemental bag; but this was more apparent than real, owing to the less number of cases where pure gas was used, and the great difficulty of getting an authentic account of the after-history of the patient. Micturition occurred in ten cases, or one per cent.; all were females. In three of these there was opisthotonos, and in one much struggling. Erotic movements and sexual illusions were present in six cases—all females; five of whom were unmarried, and one married and in an early stage of pregnancy. There was great difficulty in getting records as to the after-effects of nitrous oxide, but probably more or less headache was the rule rather than the exception.

There was no danger in giving the gas to epileptics. In the only case during lactation the patient had a bilious attack next day, and the infant seemed upset. In one case of valvular disease of the heart, the patient had gas four times, the lividity following being more lasting than normal, and on one occasion a tendency to syncope ensued. In nine cases of pregnant women nothing had gone wrong, but in most there was a tendency to vomit.—*Lancet*, June 14, 1890.

Accidents with Cocaine.

Dr. Delbosc, a pupil of Dr. Reclus, hospital surgeon, who vaunts the employment of cocaine in surgical operations, has just published a statistical and clinical report on the accidents produced by this substance. He collected the histories published of accidents, from which he has been able to establish that up to the present time only five deaths have occurred after the use of cocaine. This proportion would evidently go against the method if only the bare facts be accepted without interpreting them. From the various observations published, it would appear that death resulted from the enormous doses that were administered, varying from about eleven grains to double that quantity. According to Dr. Delbosc, cocaine may be employed at the maximum dose of three grains, although he would not advise such a dose ordinarily, as beyond that quantity serious accidents occur.

To avoid rapidity of absorption, solutions too concentrated should never be employed. Dr. Reclus has adopted a two per cent. solution, and he has never since had any accident, although he has performed, since June last, twenty-five important operations. It is not necessary in order to obtain anæsthesia to push the needle into the muscles or the subcutaneous cellular tissue, but into the thickness of the dermis. In spite of all precautions accidents may occur, and for them nitrite of amyl, injections of ether and caffein are indicated.—*Medical Record*, June 7, 1890.

Dr. Mitchell has employed coffee in a great many cases when the toxic symptoms of cocaine began to show themselves, and always with perfectly satisfactory results, and to relieve the extreme nausea, with heart-failure, that sometimes follows the administration of ether.

It is used as ordinarily prepared for the table, and is just as effective when used cold as hot. He does not think caffein would answer as well.—*Medical Record*, May 31, 1890.

The Prevention of the Toxic Effects of Cocaine.

Dr. Isidor Gluck has had occasion to use cocaine frequently in diseases of the eye, ear, nose, and throat, and seeing at times most alarming effects from its use, came to have a certain dread of it.

It is, when used in the treatment of the nose and throat, and when used hypodermically, that cocaine produces most alarming symptoms. Though employed in strengths varying from four per cent. to twenty per cent., sometimes the weakest solutions will produce the toxic effect in one susceptible.

He now uses the following solution:

℞.—Phenol . . . . gtt. ij.
Aquæ destillat. . . . . ℥j.
Shake until solution is perfect, then add
Cocaine hydrochlorate . . . . grs. x.

This formula has been in use for more than a year, and since using no toxic effects of the drug have had to be treated. It has been used in any quantity in any part of the nose or throat, without the least fear of harmful consequences. Phenol is itself a local anæsthetic, and is supposed to prevent absorption of the cocaine by forming a very superficial eschar, and thus its toxic action is avoided. Further, the phenol prevents congestive reaction, prevents the decomposition of the solution, and renders it aseptic.—*Medical Record*, June 21, 1890.

Cocaine and Morphine.

Dr. Dabbs has found that the morning sickness which complicates the continuous use of morphine hypodermically, can be annihilated by combining one-third of a grain of cocaine with the morphine solution; even though the morphine has to be steadily increased.

[One-third of a grain of cocaine subcutaneously would be a large dose for some patients.—Ed.]—*British Medical Journal*, June 14, 1890.

Coffee in Cocaine-poisoning.

The many and varied symptoms arising from cocaine-poisoning are so distressing to the patient and trying to the physician that the ingenuity of the latter is often taxed to the utmost in striving to relieve the same. All who have been called upon to relieve these cases have turned, almost instinctively, to such remedies as ammonia, brandy, and digitalis, and have been sorely disappointed where the symptoms were pronounced.

Dr. S. Mitchell used coffee with marked success in a patient who had had cocaine hypodermically. She appeared to have the whole body paralyzed, except her tongue, this unruly member continually uttering words of reproach for the helpless and hopeless condition in which all the other members had been placed. After using ammonia, brandy, and digitalis, both subcutaneously and by the mouth, also heat and general faradization, without any apparent effect, unless it was to stimulate the patient's tongue, coffee was tried, a clear, large cupful being administered inside of two minutes. The effect was all that could be desired. The pulse soon improved, the pain and sense of oppression about the heart were relieved; in fact, all the disagreeable symptoms, except the stiffness of the muscles, passed away very rapidly, greatly to the relief of patient and physician.

POISONING BY ANTIFEBRIN.

The following case illustrates the dangers of self-medication. A healthy young married woman, who had been in the habit of taking antifebrin for headache, feeling pain come on one morning took, fasting, about a teaspoonful of the drug in some water. In about ten minutes, the headache not being relieved, she repeated the dose, which her husband remarked might prove dangerous. She consequently took a glass of milk and some alum water, in order to produce vomiting, which she succeeded in doing, but immediately afterward giddiness, singing in the ears, throbbing in the temples, and a dull pain in the head, together with a feeling of weakess, came on, and the face assumed a livid hue. About four hours after collapse occurred, and for three and a half hours her condition appeared hopeless. Among other things, the intravenous injection of a solution of common salt was used, and appeared to act most beneficially.

The patient was out of danger about fourteen hours after the drug had been taken.—*Lancet*, May 24, 1890.

MEDICINE.

UNDER THE CHARGE OF

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THE MORPHOLOGY AND DEVELOPMENT OF THE BLOOD.

ALEX. EDINGTON (*British Medical Journal*, 1890, i. 1233) gives an interesting account of the state of our knowledge regarding the blood, and details his own observations upon the subject. He refers to the very varying size of the red blood-cells, and the readiness with which this variation takes place. There is, namely, a distinct variation in the aggregate size between meals, the minimum occurring soon after a meal, while the maximum is seen at the end of a period of fasting. He had also observed that the cells are diminished in size at the termination of acute fever after an exanthem, while they are